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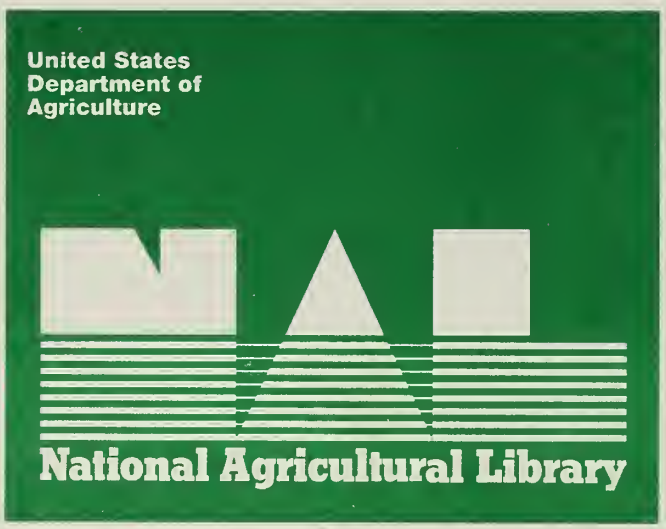
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UNITED STATES STANDARDS

for grades of

CANNED LIMA BEANS

Fifth Issue
As Amended

EFFECTIVE MARCH 20, 1960

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
FRUIT AND VEGETABLE DIVISION
PROCESSED PRODUCTS STANDARDIZATION AND INSPECTION BRANCH

These standards supersede the standards which have been in effect since July 21, 1953

This is the fifth issue, as amended, of the United States Standards for Grades of Canned Lima Beans.

Previous issues of these standards were:

Tentative (First Issue) Standards:	*Effective May 15, 1931*
Tentative (Second Issue) Standards:	*Effective November 10, 1933*
Tentative (Third Issue) Standards:	*Effective September 1, 1936*
Fourth Issue:	*Effective May 28, 1953*
Fifth Issue:	*Effective July 21, 1953*
Amended:	*Effective March 20, 1960*

These standards are included in the Code of Federal Regulations, Title 7 -- Agriculture, Part 52.

Issued under the authority of the Agricultural Marketing Act of 1946, which provides for the development of official U.S. grades to designate different levels of quality, the grade standards are for the voluntary use of producers, suppliers, buyers, and consumers. As in the case of other standards for grades of processed fruits and vegetables, these standards are designed to facilitate orderly marketing by providing a convenient basis for buying and selling, for establishing quality control programs, and for determining loan values.

These standards will also serve as a basis for the inspection and grading of this commodity by the Federal inspection service, which is also provided under the Agricultural Marketing Act of 1946. This service, available for inspection and grading of other processed products as well, is offered to interested parties, upon application, on a fee-for-service basis.

These standards are issued by the Department after careful consideration of all data and views submitted, and the Department welcomes suggestions which might aid in improving the standards in future revisions. Comments may be submitted to, and copies of standards obtained from:

Chief, Processed Products Standardization
and Inspection Branch
Fruit and Vegetable Division, AMS
U.S. Department of Agriculture
Washington, D.C. 20250

UNITED STATES STANDARDS FOR GRADES OF CANNED LIMA BEANS [1]

Effective March 20, 1960

IDENTITY, TYPES, AND GRADES

52.471 Identity.
52.472 Types of canned lima beans.
52.473 Grades of canned lima beans.

FILL OF CONTAINER AND DRAINED WEIGHTS

52.474 Recommended fill of container.
52.475 Recommended minimum drained weight.

SIZES

52.476 Sizes of lima beans in canned lima beans.

FACTORS OF QUALITY

52.477 Ascertaining the grade.
52.478 Ascertaining the rating of the factors which are scored.
52.479 Color.
52.480 Clearness of liquor.
52.481 Absence of defects.
52.482 Character.

LOT INSPECTION AND CERTIFICATION

52.483 Ascertaining the grade of a lot.

SCORE SHEET

52.484 Score sheet for canned lima beans.

IDENTITY, TYPES, AND GRADES

§ 52.471 *Identity.* "Canned lima beans" means the canned product properly prepared from the clean, sound, succulent seed of the lima bean plant, as defined in the definitions and standard of identity for canned vegetables (21 CFR 52.990) issued pursuant to the Federal Food, Drug, and Cosmetic Act.

§ 52.472 *Types of canned lima beans.* (a) "Thin-seeded," such as Henderson Bush and Thorogreen varieties;

(b) "Thick-seeded Baby Potato," such as Baby Potato, Baby Fordhook, and Evergreen varieties;

(c) "Thick-seeded," such as Fordhook variety.

§ 52.473 *Grades of canned lima beans.* (a) "U. S. Grade A" or "U. S. Fancy" is the quality of canned lima beans that possess similar varietal characteristics; that possess a normal flavor and odor; that possess a good color; that are practically free from defects; that possess a practically clear liquor; that possess a good character; and that for those factors which are scored in accordance with the scoring system outlined in this subpart the total score is not less than 90 points: *Provided,* That the canned lima beans may possess a reasonably good character and a fairly clear liquor if the total score is not less than 90 points.

(b) "U. S. Grade B" or "U. S. Extra Standard" is the quality of canned lima beans that possess similar varietal characteristics; that possess a normal flavor and odor; that possess a reasonably good color; that are reasonably free from defects; that possess a reasonably clear liquor; that possess a reasonably good character; and that for those factors which are scored in accordance with the scoring system outlined in this subpart

[1] Compliance with the provisions of these standards shall not excuse failure to comply with the provisions of the Federal Food, Drug, and Cosmetic Act or with applicable State laws and regulations.

the total score is not less than 80 points: *Provided,* That the canned lima beans may possess a fairly clear liquor if the total score is not less than 80 points.

(c) "U. S. Grade C" or "U. S. Standard" is the quality of canned lima beans that possess similar varietal characteristics; that possess a normal flavor and odor; that possess a fairly good color; that are fairly free from defects; that possess a fairly clear liquor; that possess a fairly good character; and that score not less than 70 points when scored in accordance with the scoring system outlined in this subpart.

(d) "Substandard" is the quality of canned lima beans that fail to meet the requirements of U. S. Grade C or U. S. Standard.

FILL OF CONTAINER AND DRAINED WEIGHTS

§ 52.474 *Recommended fill of container.* The recommended fill of container for canned lima beans is not incorporated in the grades of the finished product, since fill of container, as such, is not a factor of quality for the purpose of these grades. It is recommended that each container of canned lima beans be filled as full as practicable with beans without impairment of quality.

§ 52.475 *Recommended minimum drained weight.* The minimum drained weight recommendations in Table No. I of this section are not incorporated in the grades of the finished product, since drained weight, as such, is not a factor of quality for the purpose of these grades. The drained weight of canned lima beans is determined by emptying the contents of the container upon a United States Standard No. 8 circular sieve of proper diameter so as to distribute the product evenly, inclining the sieve to facilitate drainage and allow to drain for two minutes. The drained weight is the weight of the sieve and the lima beans less the weight of the dry sieve. A sieve 8 inches in diameter is used for the No. 2 size can (307 x 409) and smaller sizes, and a sieve 12 inches in diameter is used for containers larger than the No. 2 size can.

TABLE NO. I—RECOMMENDED MINIMUM DRAINED WEIGHTS (IN OUNCES) OF LIMA BEANS

Container designation	Container size			Drained weight
	Overall diameter (inches)	Overall height (inches)	Overflow capacity (fluid ounces)	
8 Z tall	2 1/16	3 3/16		5 1/2
8 Z jar			8.2	5 1/2
No. 1 (picnic)	2 1/16	4		7
No. 1 tall	3 1/16	4 1/16		10 3/4
No. 300	3	4 7/16		9 3/4
No. 303	3 3/16	4 9/16		11
No. 303 jar			17.0	11
No. 2	3 7/16	4 9/16		13 1/2
No. 10	6 3/16	7		72

SIZES

§ 52.476 *Sizes of lima beans in canned lima beans.* The size of lima beans is not a factor of quality of canned lima beans for the purpose of these grades. The size of a lima bean is determined by measuring the greatest width through the center at right angles to the longitudinal axis of the bean. The designations of the various sizes of lima beans packed as canned beans are shown in Table No. II of this section.

TABLE NO. II—SIZES OF LIMA BEANS IN CANNED LIMA BEANS

Word designation:	*Size of lima beans (inches in width)*
Midget	28/64 inch in width and smaller.
Tiny	Over 28/64 inch to and including 30/64 inch in width.
Small	Over 30/64 inch to and including 34/64 inch in width.
Medium	Over 34/64 inch to and including 38/64 inch in width.
Large	Larger than 38/64 inch in width.

FACTORS OF QUALITY

§ 52.477 *Ascertaining the grade.* (a) The grade of canned lima beans is ascertained by considering, in conjunction with the other requirements of the respective grade, the respective ratings for the factors of color, clearness of liquor, absence of defects, and character.

(b) The relative importance of each factor which is scored is expressed

numerically on the scale of 100. The maximum number of points that may be given each such factor is:

Factor:	*Points*
Color	35
Clearness of liquor	10
Absence of defects	25
Character	30
Total score	100

(c) "Normal flavor and normal odor" means that the product is free from objectionable flavors and objectionable odors of any kind.

§ 52.478 *Ascertaining the rating of the factors which are scored.* The essential variations within each factor which is scored are so described that the value may be ascertained for such factors and expressed numerically. The numerical range within each factor which is scored is inclusive (for example, "8 to 10 points" means 8, 9, or 10 points).

§ 52.479 *Color.*

(a) *General.* (1) The color for all types of canned lima beans in this subpart is based on the predominating and characteristic color of the exterior surface of the canned lima bean when compared to the U.S.D.A. permanent plastic color standards for Canned Thin-Seeded Lima Beans.

(2) A set of these color standards is available for public inspection, and information in regard to procurement of sets may be obtained from the Processed Products Standardization and Inspection Branch, Fruit and Vegetable Division, Agricultural Marketing Service, U.S. Department of Agriculture, Washington 25, D.C.

(i) "Green" with respect to all types of canned lima beans in this subpart means that the color of the individual lima bean possesses as much or more green color than the "U.S.D.A. Color Standard for Canned Thin-Seeded Green Lima Beans".

(ii) "White" with respect to all types of canned lima beans in this subpart means that the color of the individual lima bean is lighter than the "U.S.D.A. Color Standard for Canned Thin-Seeded White Lima Beans".

(b) (*A*) *classification.* Canned lima beans that possess a good color may be given a score of 32 to 35 points. "Good color" means that the lima beans, regardless of type, possess a bright typical color and meet the following additional color requirements for the respective types:

(1) *Thin-seeded type; Thick-seeded Baby Potato type.* (i) Not less than 90 percent, by count, of the lima beans are "green" defined as aforesaid, and not more than 10 percent, by count, may be lighter in color: *Provided,* That not more than 1 percent, by count, of all the lima beans are white, or

(ii) Not less than 97 percent, by count, of the lima beans are "green," defined as aforesaid, and not more than 3 percent, by count, may be lighter in color or white lima beans.

(2) *Thick-seeded type.* Not less than 90 percent, by count, of the lima beans are "green," defined as aforesaid, and not more than 10 percent, by count, may be lighter in color: *Provided,* That not more than 3 percent, by count, of all the lima beans are white.

(c) (*B*) *classification.* If the canned lima beans possess a reasonably good color, a score of 29 to 31 points may be given. Canned lima beans that fall into this classification shall not be graded above U. S. Grade B or U. S. Extra Standard, regardless of the total score for the product (this is a limiting rule). "Reasonably good color" means that the lima beans, regardless of type, possess a typical color and meet the following additional requirements for the respective types:

(1) *Thin-seeded type; Thick-seeded Baby Potato type.* Not less than 50 percent, by count, of the lima beans are "green," defined as aforesaid, and not more than 50 percent, by count, may be lighter in color: *Provided,* That not more than 25 percent, by count, of all the lima beans are white.

(2) *Thick-seeded type.* Not less than 50 percent, by count, of the lima beans are "green," defined as aforesaid, and not more than 50 percent, by count, may be lighter in color: *Provided,* That not more than 25 percent, by count, of all

the lima beans are white.

(d) (*C*) *classification.* Canned lima beans that possess a fairly good color may be given a score of 26 to 28 points. Canned lima beans that fall into this classification shall not be graded above U. S. Grade C or U. S. Standard, regardless of the total score for the product (this is a limiting rule). "Fairly good color" means that the lima beans, regardless of type, possess a typical color and meet the following additional requirements for the respective types:

(1) *Thin-seeded type; Thick-seeded Baby Potato type.* Less than 50 percent, by count, of the lima beans are "green," defined as aforesaid, and all of the lima beans may be white.

(2) *Thick-seeded type.* Less than 50 percent, by count, of the lima beans are "green," defined as aforesaid, and all of the lima beans may be white.

(e) (*SStd*) *classification.* Canned lima beans that are definitely off color or fail to meet the requirements of paragraph (d) of this section may be given a score of 0 to 25 points and shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

§ 52.480 *Clearness of liquor*—(a) (*A*) *classification.* Canned lima beans that possess a practically clear liquor may be given a score of 9 or 10 points. "Practically clear liquor" means that the liquor may be slightly cloudy and that not more than a small amount of sediment is present.

(b) (*B*) *classification.* If the canned lima beans possess a reasonably clear liquor, a score of 7 or 8 points may be given. "Reasonably clear liquor" means that the liquor may be somewhat cloudy and may contain a considerable amount of sediment.

(c) (*C*) *classification.* Canned lima beans that possess a fairly clear liquor may be given a score of 5 or 6 points. "Fairly clear liquor" means that the liquor may be dull in color but not to the extent that the appearance is seriously affected, and may be rather viscous cream-like, or starchy.

(d) (*SStd*) *classification.* Canned lima beans that possess a liquor that is definitely off color for any reason or that contains an excessive amount of sediment may be given a score of 0 to 4 points and shall not be graded above Substandard, regardless of the total score for the product (this is limiting rule).

§ 52.481 *Absence of defects*—(a) *General.* The factor of absence of defects refers to the degree of freedom from extraneous vegetable matter, from loose skins, loose cotyledons, broken beans, sprouted beans, and from beans that show light discoloration or that are blemished or seriously blemished.

(1) "Extraneous vegetable matter" means pods or pieces of pods, leaves, stems, and other similar vegetable matter.

(2) "Broken bean" means a bean from which one-half or more of a cotyledon or the equivalent thereof has become detached; or pieces of cotyledon aggregating the equivalent of an average size whole cotyledon.

(3) "Loose cotyledon" means a whole cotyledon which has become separated from the skin.

(4) "Loose skin" means a whole skin or portions of skin aggregating the equivalent of an average size whole skin which has become separated from the cotyledons.

(5) "Light discoloration" means light discoloration of the hilum or other light discoloration which slightly affects but does not materially affect the appearance of the bean.

(6) "Sprouted" means lima beans that show an external shoot protruding beyond the cotyledon or skin.

(7) "Blemished" means blemished by discoloration, pathological injury, insect injury, or blemished by other means, other than by light discoloration which is not considered blemished, to such an extent that the aggregate blemished area materially affects the appearance or eating quality of a bean or any detached piece of a bean.

(8) "Seriously blemished" means blemished to such an extent that the

aggregate blemished area seriously affects the appearance or eating quality of a bean or any detached piece of a bean.

(b) (*A*) *classification.* Canned lima beans that are practically free from defects may be given a score of 22 to 25 points. "Practically free from defects" means that the aforesaid defects, individually or collectively, do not more than slightly affect the appearance or eating quality of the product. The following allowances provide a guide for scoring canned lima beans which are practically free from defects:

(1) For each 10 ounces drained weight of beans there may be present:

(i) 1 piece, or pieces, of extraneous vegetable matter having an aggregate area of 3/16 square inch (½'' x 3/8'') on one surface of the piece, or pieces;

(ii) 3 percent, by count, of loose skins;

(iii) 5 percent, by count, of broken beans and loose cotyledons;

(iv) 1 percent, by count, of sprouted beans; and

(v) 2 percent, by count, of blemished and seriously blemished beans, and of such 2 percent, not more than ¼ thereof or ½ of 1 percent, by count, of all the beans may be seriously blemished.

(c) (*B*) *classification.* If the canned lima beans are reasonably free from defects, a score of 20 or 21 points may be given. Canned lima beans that fall into this classification shall not be graded above U. S. Grade B or U. S. Extra Standard, regardless of the total score for the product (this is a limiting rule). "Reasonably free from defects" means that the aforesaid defects, individually or collectively, do not materially affect the appearance or eating quality of the product. The following allowances provide a guide for scoring canned lima beans which are reasonably free from defects:

(1) For each 10 ounces drained weight of beans there may be present:

(i) 1 piece, or pieces, of extraneous vegetable matter having an aggregate area of more than 3/16 square inch but not more than 3/8 square inch (½'' x ¾'') on one surface of the piece, or pieces;

(ii) 5 percent, by count, of loose skins;

(iii) 10 percent, by count, of broken beans and loose cotyledons;

(iv) 4 percent, by count, of sprouted beans; and

(v) 3 percent, by count, of blemished and seriously blemished beans, and of such 3 percent, not more than ⅓ thereof or 1 percent by count, of all the beans may be seriously blemished.

(d) (*C*) *classification.* Canned lima beans that are fairly free from defects may be given a score of 18 or 19 points. Canned lima beans that fall into this classification shall not be graded above U. S. Grade C or U. S. Standard, regardless of the total score for the product (this is a limiting rule). "Fairly free from defects" means that the aforesaid defects, individually or collectively, do not seriously affect the appearance or eating quality of the product. The following allowances provide a guide for scoring canned lima beans which are fairly free from defects:

(1) For each 10 ounces drained weight of beans there may be present:

(i) 1 piece, or pieces, of extraneous vegetable matter having an aggregate area of more than 3/8 square inch, but not more than ¾ square inch (½'' x 1½'') on one surface of the piece, or pieces;

(ii) 8 percent, by count, of loose skins;

(iii) 15 percent, by count, of broken beans and loose cotyledons;

(iv) 8 percent, by count, of sprouted beans; and

(v) 4 percent, by count, of blemished and seriously blemished beans, and of such 4 percent, not more than ½ thereof or 2 percent, by count, of all the beans may be seriously blemished.

(e) (*SStd*) *classification.* Canned lima beans that fail to meet the requirements of paragraph (d) of this section may be given a score of 0 to 17 points and shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

§ 52.482 *Character.* The factor of character refers to the tenderness and

maturity of the product.

(a) *(A) classification.* Canned lima beans that possess a good character may be given a score of 27 to 30 points. "Good character" means that the lima beans are young and tender.

(b) *(B) classification.* If the canned lima beans possess a reasonably good character, a score of 24 to 26 points may be given. "Reasonably good character" means that the lima beans are reasonably young and reasonably tender.

(c) *(C) classification.* Canned lima beans that possess a fairly good character may be given a score of 21 to 23 points. Canned lima beans that fall into this classification shall not be graded above U. S. Grade C or U. S. Standard, regardless of the total score for the product (this is a limiting rule). "Fairly good character" means that the lima beans may be nearly mature and possess a fairly tender texture, may be firm and mealy but not hard, or may be soft but not mushy.

(d) *(SStd) classification.* Canned lima beans that fail to meet the requirements of paragraph (c) of this section may be given a score of 0 to 20 points and shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

Lot Inspection and Certification

§ 52.483 *Ascertaining the grade of a lot.*

The grade of a lot of canned lima beans covered by these standards is determined by the procedure set forth in the Regulations Governing Inspection and Certification of Processed Fruits and Vegetables, Processed Products Thereof, and Certain Other Processed Food Products (§§ 52.1 through 52.87).

Score Sheet

§ 52.484 *Score sheet for canned lima beans.*

Size and kind of container	----
Container marks or identification	----
Label	----
Net weight (ounces)	----
Vacuum (inches)	----
Drained weight (ounces)	----
Type	----
Size	----
Color {Percent green	----
Color {Percent white	----

Factors	Score points		
Color	35	(A)	32–35
		(B)	[1]29–31
		(C)	[1]26–28
		(SStd.)	[1] 0–25
Clearness of liquor	10	(A)	9–10
		(B)	7– 8
		(C)	5– 6
		(SStd.)	[1] 0– 4
Absence of defects	25	(A)	22–25
		(B)	[1]20–21
		(C)	[1]18–19
		(SStd.)	[1] 0–17
Character	30	(A)	27–30
		(B)	24–26
		(C)	[1]21–23
		(SStd.)	[1] 0–20
Total score	100		

Grade	----
Normal flavor and odor	----

[1] Indicates limiting rule.

(Secs. 202–208, 60 Stat. 1087, as amended; 7 U.S.C. 1621–1627)

Dated March 4, 1960, to become effective March 20, 1960.

Roy W. Lennartson,
Deputy Administrator,
Marketing Services.

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